

REMARKS

This Amendment Response is submitted in reply to the Office Action dated June 12, 2007, in which the Examiner:

indicated claims 6-9, 12, 13, 18 and 19 would be allowable if rewritten in independent form;

rejected claims 1-4, 16 and 17 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,31,332 to Toda;

rejected claims 1 and 16 under 35 U.S.C. § 102(b) as anticipated by Japanese Patent JP 55-42474 (Takasaki);

rejected claims 10 and 11 under 35 U.S.C. § 102(b)/103(a) as anticipated by, or unpatentable over, Takasaki; and

rejected claims 5 and 20-22 under 35 U.S.C. § 103(a) as unpatentable over Toda in view of Japanese Patent JP 55-91299 (Kawasaki).

Claims 1-13 and 16-22 are currently pending. Claims 1 and 16 are independent claims.

Claims 1 and 16 were rejected under 35 U.S.C. § 102(b) as anticipated by Toda. An anticipation rejection under § 102 is improper unless a single prior art reference shows or discloses each and every claim recitation.

Applicants' claim 1 recites an actuator comprising a tubular portion extending in a longitudinal direction, the tubular portion comprising a body of an elastomeric material arranged between two electrodes, wherein any line of symmetry extending between two opposite points on a periphery in a cross-

section perpendicular to the longitudinal direction has a length which is different from any other such line of symmetry.

Applicants' claim 16 recites an actuator comprising an elastomeric material arranged between two electrodes forming a tubular portion extending in a longitudinal direction and having a cross-section, wherein the cross-section of the tubular portion is asymmetrical.

Toda does not show or disclose each and every recitation of Applicants' claims 1 or 16. For instance, Toda does not show or disclose an actuator comprising an elastomeric material arranged between two electrodes. Instead, Toda discloses:

In the first embodiment, the piezoelectric layers 20, 22 are formed of polyvinylidene fluoride (PVDF); however, any suitable piezoelectric polymer such as a copolymer of polyvinylidene fluoride-trifluoroethylene (PVDF-TrFE) may be used. (Toda, col. 7, lines 13-17.)

Neither PVDF, nor PVDF-TrFE, is an elastomer. Additionally, not all elastomers are piezoelectric. Therefore, Applicants respectfully submit that Toda's disclosure of PVDF and PVDF-TrFE, coupled with the mention of "any suitable piezoelectric polymer," does not even generically disclose elastomers – much less allow of ordinary skill in the art to "immediately envision" elastomers. (See, e.g., MPEP 2131.02, Genus-Species Situations.)

Thus, Toda does not show or disclose each and every recitation of Applicants' claims 1 and 16. Accordingly, Applicants respectfully submit that the rejection of claims 1 and 16 under 35 U.S.C. § 102(b) as anticipated by Toda is improper for at least this reason, and should be withdrawn.

Claims 2-4 and 17 were also rejected under 35 U.S.C. § 102(b) as anticipated by Toda. These claims all depend, directly or indirectly, from Applicants' claims 1 or 16 and include additional recitations thereto. Accordingly, Applicants respectfully submit that the rejection of claims 2-4 and 17 under 35 U.S.C. § 102(b) as anticipated by Toda is improper for at least the reasons stated in connection with claims 1 and 16, and should be withdrawn.

Claims 1 and 16 were rejected under 35 U.S.C. § 102(b) as anticipated by Takasaki. Takasaki does not show or disclose each and every recitation of Applicants' claim recitations. For instance, Takasaki does not show or disclose an actuator comprising an elastomeric material arranged between two electrodes. Instead, Takasaki discloses a "Polymer Piezoelectric Vibrator...." (Takasaki, Title.) As discussed in connection with Toda, the mere disclosure of piezoelectric polymers does not show or disclose (at least in the Abstract or Figures – see discussion below regarding the citation of non-English language references) the elastomeric material recited by Applicants' claims 1 and 16.

Thus, Takasaki does not show or disclose each and each and every recitation of Applicants' claims 1 and 16. Accordingly, Applicants respectfully submit that the rejection of claims 1 and 16 under 35 U.S.C. § 102(b) as anticipated by Takasaki is improper for at least this reason, and should be withdrawn.

Claims 10 and 11 were rejected under 35 U.S.C. § 102(b) as anticipated by Takasaki. Claims 10 and 11 both depend, directly or indirectly, from Applicants' claim 1, and include additional recitations thereto. Accordingly, Applicants' submit that the rejection of dependent claims 10 and 11 under 35 U.S.C. § 102(b)

as anticipated by Takasaki is improper for at least the reasons stated in connection with claim 1, and should be withdrawn.

Claims 10 and 11 were alternately rejected under 35 U.S.C. § 103(a) as unpatentable over Takasaki. A rejection under 35 U.S.C. § 103(a) is improper unless the Examiner establishes a prima facie case of obviousness. A prima facie case of obviousness is not established unless the prior art references, alone or in combination, teach or suggest each and every claim recitation.

Claims 10 and 11 both depend, directly or indirectly, from Applicants' claim 1, and include additional recitations thereto. Takasaki does not teach or suggest each and every recitation of Applicants' claim 1. For instance, Takasaki does not teach or suggest an actuator comprising an elastomeric material arranged between two electrodes. Instead, Takasaki teaches, at most, a polymer piezoelectric vibrator. This teaching appears in the title of Takasaki. The English Abstract does not even mention polymers, only "piezoelectric sheets" – making it unclear whether the word "polymer" in the title even refers to the composition of the piezoelectric sheets, rather than the composition of some other component of the vibrator. Even if "polymer" refers to the composition of Takasaki's piezoelectric sheets, piezoelectric polymers are not necessarily elastomeric. Therefore, Applicants submit that the teaching of a piezoelectric polymer does not teach or suggest elastomers to one of ordinary skill in the art.

Thus, Takasaki does not teach or suggest each and every recitation of Applicants' independent claim 1. Accordingly, Applicants respectfully submit that the rejection of dependent claims 10 and 11 under 35 U.S.C. § 103(a) as

unpatentable over Takasaki is improper for at least this reason, and should be withdrawn.

Claims 5 and 20-22 were rejected under 35 U.S.C. § 103(a) as unpatentable over Toda in view of Kawasaki. These claims all depend, directly or indirectly from Applicants' independent claims 1 or 16 and include additional recitations thereto. Toda does not teach or suggest each and every recitation of Applicants' claims 1 and 16. For instance, Toda does not teach or suggest an actuator comprising an elastomeric material arranged between two electrodes. Instead, Toda teaches an ultrasonic transducer including a piezoelectric polymer, preferably PVDF (or PVDF-TrFE, as referenced above in connection with claims 1 and 16).

Kawasaki does not add to the teachings of Toda in that Kawasaki also does not teach or suggest (at least in the Abstract or Figures – see discussion below regarding the citation of non-English language references) an actuator comprising an elastomeric material arranged between two electrodes. Instead, Kawasaki teaches “electrocacoustic converters” including a “high molecular piezoelectric film.” (See, e.g., Kawasaki, Abstract.) Kawasaki does not appear to even teach or suggest that its piezoelectric film is a piezoelectric polymer, much less an elastomer.

Thus, neither Toda nor Kawasaki, nor the combination thereof, teaches or suggests each and every recitation of Applicants' independent claims 1 and 16. Accordingly, Applicants respectfully submit that the rejection of dependent claims 5 and 20-22 under 35 U.S.C. § 103(a) as unpatentable over Toda in view of Kawasaki is improper for at least this reason, and should be withdrawn.

Regarding the citation of Takasaki and Kawasaki, Applicants note that complete translations of these references have not been provided. Applicants submit that this practice is “generally improper” where both the Abstract and the underlying reference may qualify as prior art, and Applicants submit that the current rejection (and Applicants’ comments in traversal thereof) are correspondingly limited to the disclosure of the English Abstract and what may be gleaned from the Figures. (See, e.g., MPEP 706.02.II.) If the Examiner wishes to maintain the rejections based on Takasaki and/or Kawasaki, Applicants respectfully request that the Examiner obtain a complete translation of each reference relied upon.

Having traversed each and every claim rejection, Applicants respectfully request that the rejections of claims 1-5, 10, 11, 16, 17 and 20-22 be withdrawn, and claims 1-13 and 16-22 be passed to issue.

Applicants believe no fees are due in connection with the current Response. If any fees are deemed necessary, authorization is hereby granted to charge any such fees to Deposit Account No. 13-0235.

Respectfully submitted,

By /Marina F. Cunningham/
Marina F. Cunningham
Registration No. 38,419
Attorney for the Applicants

McCORMICK, PAULDING & HUBER LLP
CityPlace II, 185 Asylum Street
Hartford, CT 06103-3402
(860) 549-5290